

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Wed, 28 Jun 1995 18:23:35 -0700 (PDT)  
From: mtrail@violet.berkeley.edu  
Subject: [1340] Another 840 zero beat technique  
Message-ID: <Pine.3.89.9506281829.A4851-0100000@violet.berkeley.edu>

Hi, gang

Here's one more trick for "zero-beating" the Yaesu 840 or some other rigs. If you can adjust the beep tone (sounds when you press certain controls), then simply adjust it for the same tone as your cw offset frequency. Tune in a signal, press the "lock" control repeatedly and tune until the signal's tone matches the beeper freq. Pretty accurate!

Matt KN6CR

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Wed, 28 Jun 1995 18:42:07 -0700 (PDT)  
From: Steven Wilson <randyw@crl.com>  
Subject: [1341] Re: Another 840 zero beat technique  
Message-ID: <Pine.SUN.3.91.950628183642.8405A-1000000@crl11.crl.com>

ZERO BEAT - WHY ?

A lot of QRP stations use xtals. Many of the little homebrew designs do not have the exact off set. And many use RIT.

If you call CQ why do you not tune plus and minus your carrier by at least 2 khz. ?

One almost never works a DX station zero beat. QRP is the last place one should insist upon zero beating. Let the KW SSB stations do that. But if you want to make contacts tune around your carrier frequency.

Don't start out with the filter set at 100 hz either. If qrm is so bad you have to hv the filter set at 100 hz then you should look around at perhaps another freq a couple of khz away.

The more I read the mail on the qrp list the more I understand why some of you never work anyone.

de stan ak0b

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Wed, 28 Jun 1995 22:09:20 -0400 (EDT)  
From: BRUCE3900@delphi.com  
Subject: [1342] Zeroing your beat  
Message-ID: <01HS96UGSI0K921XX9@delphi.com>

Excuse this old timer, but this long running discussion about 'to zero beat or not to zero beat, and how' seems a bit frivolous. I admit I started in this fine hobby when receivers came in one box and transmitters in another, but surely, those of us who are blessed with modern (purely a figure of speech) transceivers cannot be THAT concerned whether they are in exact zero beat or not, can we? We've all heard the myth about Ernie's super sharp filter and how being only a bit off can cause him to avoid you. That, IMHO is purely BS. There ain't a filter that sharp, is there, and if there is, how do you keep the little bugger from ringing (that wasn't the telephone). Unless you're using a dc receiver/transceiver where it is important which side of zero beat you're on, just tune for the loudest sounding signal and call away. If your rig has a cw filter it'll tell you when you've passed beyond 700hz -- the signal goeth away. If you're still using an ssb filter for cw you relaay should help your ears by getting a good cw filter!

73 and donning flame suit,  
Uncle Bruc(ie)  
W6TOY/3

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Wed, 28 Jun 1995 19:01:54 -0700  
From: Clark Savage Turner WA3JPG <turner@safety.ICS.UCI.EDU>  
Subject: [1343] zero beat techniques  
Message-ID: <23975.804391314@safety.ics.uci.edu>

> ZERO BEAT - WHY ?

> A lot of QRP stations use xtals. Many of the little homebrew  
> designs do not have the exact off set. And many use RIT.

Of course this is true. However, why would you NOT want to start at approximate zero beat? I personally want to come in close to the passband of the receiver on the other side. I can get close by some approximation to zero beat. Then I can move around a bit if I need to.

> If you call CQ why do you not tune plus and minus your carrier by  
> at least 2 khz. ?

Yes, I do. But does everyone else? I don't think so. Ever try to work Ernie, W8MVN? He prefers to use a sharp filter and you need to

appear in the passband to catch him. I have managed it, hi hi.

> One almost never works a DX station zero beat. QRP is the last place  
> one should insist upon zero beating. Let the KW SSB stations do that.  
> But if you want to make contacts tune around your carrier frequency.

Exactly the opposite in my experience. I always try to start around zero beat. If I am trying hard to get through a crowd or am having trouble catching the station's attention, I will tune off a bit and see what happens.

> Don't start out with the filter set at 100 hz either. If qrm is so bad  
> you have to hv the filter set at 100 hz then you should look around at  
> perhaps another freq a couple of khz away.

This is true. That is good advice. But NOT all other stations do it that way. I have the NorCal 40, and it has a narrow filter in it all the time, there is no choice. If a station is not nearly zero beat, I may just miss them. Of course, I do tune around a little, but that may not be necessary if we are close to begin with.

> The more I read the mail on the qrp list the more I understand why some of  
> you never work anyone.

This is a strange comment. I work plenty of stations, and I always try to come close to zero beat at the outset. After that, I move around as you suggest. I am not obsessed with a 800 Hz offset either, but tuning to an approximate 800 Hz beat note will put me in the ballpark. Do you honestly think that coming close to the other station's frequency is a bad idea and we should randomly choose our offsets??? I suspect you are just reacting to a seeming obsession with exact zero beat and I agree it is not necessary to slavishly stick to such a rule. However, it does have a good purpose...

Just my two cents. Back to work.

Clark  
WA3JPG  
QRP No.3526

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: 28 Jun 95 22:14:00 -0400  
From: mvjif@mvubr.att.com (James M Fitton 508 960 2577)  
Subject: [1344] Pixie Deathray  
Message-ID: <9506290216.AA08100@ig1.att.att.com>

Just read Bill's (KC1GS) account of NE FD ..... Nice Job !

Excellent FD, but I'm getting too old for this stuff.....  
Wonder where the other 340 club members were ?

The Argonaut 509 operated flawlessly as usual and 6 years on the gellcell.

Even worked a station on 80m with the Pixie II at 300 Mw.

Also tonight, using a 3.560 MHz xtal in the Pixie, checked into the QRP CW NET GLN, Great Lakes Net by NCS W1CFI (Wednesday eves at 9 pm EST).

I contacted everyone on the net, with the following reports;

W1CFI - 569 - MA  
KA2QPG - 559 - NY  
VE2XLT - 559 - Montreal

Dont know how far these folks are located from Salem NH,  
but I was thrilled to be able to make contacts using a tiny HB  
transceiver, little 9v battery all built inside a small  
Altoids tin candy box.

How much fun can one person have ?

72/73 Jim F. W1FMR QRP-NE NH mvjf@mvubr.att.com

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 00:00:08 -0400  
From: Chris Doherty <doherty@lydian.scranton.com>  
Subject: [1345] Re: Zeroing your beat  
Message-ID: <Pine.3.89.9506282339.B24385-0100000@lydian.scranton.com>

Being a new guy, I don't know too much. (Sometimes that's a real good thing!) But, I remember hearing about zero-beat and now I'm reading about it. Still sounds real complicated the way some of these guys go about it. They turn this dial and press that button and jiggle the whatsis and finagle the whatchamacallit. They surely don't follow the kismif principle (keep it simple, make it fun). Here is what I do and I think it's close to what you are saying. I tune until I get the best signal and then I reach

out and touch someone. Seems to work every time. Now I'll put on \*my\*  
flame suit. 'Cause when I've got to be that precise, it ain't no fun  
anymore - it's obsessive-compulsive disorder. Oh, oh. I can feel the heat  
already :-)

\*\*\*\*\*

-73- de N3UVR qrp

#####

0(o o)0

Take me to your leader. (\_|\_) Leader? What leader? We don't got no  
<(\_\_\_)> stinkin' leader!

Chris Doherty <%%%%>

doherty@lydian.scranton.com

\*\*\*\*\*

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995

Date: Wed, 28 Jun 1995 22:42:39 -0700

From: aa7qy@primenet.com (Roger Hightower)

Subject: [1346] Re: Zeroing your beat

Message-ID: <199506290542.WAA04529@mailhost.primenet.com>

>Excuse this old timer, but this long running discussion about 'to zero beat  
>or not to zero beat, and how' seems a bit frivolous. I admit I started in  
>this fine hobby when receivers came in one box and transmitters in another,  
>but surely, those of us who are blessed with modern (purely a figure of  
>speech) transceivers cannot be THAT concerned whether they are in exact zero  
>beat or not, can we? We've all heard the myth about Ernie's super sharp  
>filter and how being only a bit off can cause him to avoid you. That, IMHO  
>is purely BS. There ain't a filter that sharp, is there, and if there is,  
>how do you keep the little bugger from ringing (that wasn't the telephone).  
>Unless you're using a dc receiver/transceiver where it is important which  
>side of zero beat you're on, just tune for the loudest sounding signal and  
>call away. If your rig has a cw filter it'll tell you when you've passed  
>beyond 700hz -- the signal goeth away. If you're still using an ssb filter  
>for cw you relaay should help your ears by getting a good cw filter!  
>73 and donning flame suit,  
>Uncle Bruc(ie)  
>W6TOY/3

>

>

You got it! Since I usually use a 400 or 500 hertz filter, I figure if I can  
hear him I must be in his passband...nothing magic abt it. If he doesn't hear  
me, he has a hearing problem or just likes to work the strong ones. No biggie.

72..Roger AA7QY

aa7qy@primenet.com

rhhigh@aztec.asu.edu

Ham Radio: AA7QY@KC7Y.AZ.USA.NA

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995

Date: Thu, 29 Jun 95 09:27:00 GMT

From: "Fishpool, Tony" <TONYF@mlcse1.agw.bt.co.uk>

Subject: [1347] Re: NE30-40/SW30 low power out

Message-ID: <2FF27265@longate.agw.bt.co.uk>

Jess recently wrote:-

>Here's the mystery and why I am posting this to the list. When I start  
>getting the power much over about 1-1.2 watts, the transmitted SWR also  
>increases for reflected power. If I start at about 700 mils, the SWR on  
>reflected power is nada. As I increase the power much over 1 watt or  
higher,  
>then the reflected power level also increases. I am guessing (since I don't  
>own a scope) that the radio is starting to transmit "dirty" harmonics and  
>that the SWR meter (OHR WM-1) that is reading the "out of band" harmonics  
>generated by the radio bumping the edge of RF twilight zone.

Jess, Could it be that at low power the diodes in your SWR bridge aren't  
conducting all that well? I'm not familiar with the OHR WM-1 but is it a QRP  
jobbie?

Regards Tony - G4WIF

tonyf@mlsce1.agw.bt.co.uk

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995

Date: Thu, 29 Jun 95 12:12:47 +0200

From: dsibie@hvsag01.att.com

Subject: [1348] Re: offset and/or zero-beat

Message-ID: <9506291012.AA05781@hvsag01>

Lads and lassies please,

After reading and studying the mails about offset and zero beat  
the subject becomes clear as mud to me. I still do not understand  
how two systems can communicate when both systems are sending and receiving

at different frequencies. Yes, if one system is sending at 750 Hz lower than he is listening and the other is listening 750 Hz lower than he is sending they can communicate (duplex mode).

However, if I turn around with my HW-8, having just a big knob in the middle and I find a morse station its frequency starts high, gradually lowers until 0 Hz is reached (zero beat I think) and then it rises until inaudible. Most of the time when the tone is just pretty in the ear I start keying and the other side reacts, or not. Pure magic.

Each time communication is established I sit flabberghasted behind my key. I remember an article in QST about this where the reader was invited to tinker with pieces of paper with holes cut out to visualise what was going on when tuning and using external VFO's and RITs and things that are not in my HW-8.

So the riddle still stays: how does offset work to provide two-way contact?

Separate question: at which side of the zero-beat point should I tune?

Probably try one side, if the other party does not respond try the other side?

Sorry if this is just stupid, but now I really want to know.

72 de Dirk, PA3GNR, dsibie@ns-nl.att.com

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995

Date: Thu, 29 Jun 1995 08:37:38 -0230

From: rgobrick@public.compusult.nf.ca (Robert J. Gobrick)

Subject: [1349] Re: Pixie Deathray

Message-ID: <199506291107.IAA09697@public.compusult.nf.ca>

Jim,

"ya learn sumtin new every day.." I am going to have to scrounge for a 3.560 Mhz xtal and give it a try. By the way for the Pixie experts out there in qrp-1 land, does anyone have any nice simple, one cap T/R circuit using a SPST switch to deal with the inherent "offset" (ah that word again....) exhibited by the Pixie 2 design? Probably don't need to worry about the offset since the Pixie 2 "front end" is wider (much wider) than a barn door. I wonder if putting a \$300 dsp filter on my \$10 Pixie would help???

Have fun (like Jim) 73/72 Bob V01DRB/WA6ERB

>Even worked a station on 80m with the Pixie II at 300 Mw.

>

>Also tonight, using a 3.560 MHz xtal in the Pixie, checked into

>the QRP CW NET GLN, Great Lakes Net by NCS W1CFI (Wednesday eves

>at 9 pm EST).

>  
>I contacted everyone on the net, with the following reports;  
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>W1CFI - 569 - MA  
>KA2QPG - 559 - NY  
>VE2XLT - 559 - Montreal  
>  
>Dont know how far these folks are located from Salem NH,  
>but I was thrilled to be able to make contacts using a tiny HB  
>transceiver, little 9v battery all built inside a small  
>Altoids tin candy box.  
>  
>How much fun can one person have ?  
>  
>  
>  
> 72/73     Jim F.     W1FMR     QRP-NE     NH     mvjif@mvubr.att.com  
>  
>

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 08:18:25 -0400  
From: sgreene@access.digex.net (Stephan Greene)  
Subject: [1350] Keying Tube rigs with Idiom Press Super CMOS Keyer  
Message-ID: <199506291218.IAA27573@access5.digex.net>

After having the all-too brief pleasure of using Logitech's  
commerical version of the Super CMOS keyer while running our  
club's QRP/Batt satellite station (44 QSOs on A0-10, A0-13,  
and F0-20)during Field Day, I am determined to finish the  
Idiom Press kit I purchased some time ago.

I learned that the Logitech version includes a jumper setting  
allowing the keyer to key tube rigs, a feature lacking in the  
kit version. I will be using the keyer on both solid-state and  
my old Drake T4XB, so I need the ability to key higher voltages/  
currents in the tube rig.

Can anyone refer me to an article or schematic of a circuit I can  
add to the Idiom Press Super CMOS II so I can use it with my Drake  
without frying the keyer? With the volume of messages about this  
keyer on this mailing list, I suspect others here have had and solved  
this problem.

TNX in advance!



72.....72 ("echo" from satellite over 40,000 km path!)

Steve Greene

sgreene@access.digex.net / ka1lm@amsat.org

BTW: RE the discussion on zero-beating, I just make sure both my signal and the other station's have about the same tone on the satellite's downlink - my OHR SCAF audio filter's medium settings help here - then I \*know\* he can hear me (assuming the other station has a decent receiving set-up). One quirk of satellites is it's a full-duplex mode, and you can hear yourself and the other station at the same time.

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 95 08:01:00 PDT  
From: Johnson Russ <JohnsonR@rnd2.indy.tce.com>  
Subject: [1352] uncompress .z files on PC  
Message-ID: <2FF2C07D@MSMAIL.INDY.TCE.COM>

Could someone E-Mail me direct with info on how to uncompress the archive files on the Lehigh ftp server on my PC. I have a unix box also at work but would like to be able to uncompress on my PC at home as well.

Thanks,

Russ Johnson N9RJ  
johnsonr@indy.tce.com

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 08:56:09 -0400 (EDT)  
From: rod@catrs.cat.cc.md.us  
Subject: [1353] Re: K5FO cometh  
Message-ID: <Pine.A32.3.91.950629085503.24502B-100000@catrs.cat.cc.md.us>

Hi Mike. I plan to attend. Sorry to post this to the list but the message bounced when I tried to mail directly.

Rod  
KA3BHY

On Tue, 27 Jun 1995, Mike Czuhajewski wrote:

> I finally saw the confirmation from K5FO in the Daily Digest, so guess

> we're on: 1830 on Thurs at the same Holiday Inn (?) in Calverton,  
> which is the only I95 exit between the north side of the Washington  
> beltway and Laurel. You can probably see the hotel from I95. I'll  
> send a packetgram to K3TKS to give him the final heads-up. Anyone else  
> in the area who wants to come is more than welcome! A good evening of  
> QRP stories and possible Show and Tell, depending on what everyone has  
> built since the last gathering. 73 and Queue Our Pea DE WA8MCQ  
> --  
> Mike Czuhajewski, user of the UniBoard System @ wb3ffv.ampr.org  
> E-Mail: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org  
> The WB3FFV Amateur Radio BBS - Located in Baltimore, Maryland USA  
> Supporting the Amateur Radio Hobby, and TCP/IP InterNetworking  
>  
>

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 09:01:57 -0400  
From: Dan Puckett <af045@dayton.wright.edu>  
Subject: [1354] Pixie 2 problem: solved  
Message-ID: <9506291301.AA19336@dayton.wright.edu>

Hi all.

My Pixie 2 problem has been solved. As you may recall, I was having problems with the receive part of my Pixie. All I got was a loud hum. Bob, V01DRB/WA6ERB suggested alkyline batterys work better than carbon-zinc. So, I put the bunny to work without changing anything else and that fixed it. Go figure. Thanks Bob. I was able to copy the Reds beat up on the Philllies (the score was 1-0 Reds) on a local broadcast station. So that becomes the next project. Anybody got a good design for a 1290 KHz trap.

Oh well, back to the soldering iron.

Dan WD8AAU ouch! ouch! Man is that iron hot!  
af045@dayton.wright.edu

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 08:59:22 -0500 (EST)  
From: David Moody <MOODY@Admin.Rose-Hulman.Edu>  
Subject: [1355] Re: Incoherent CW?  
Message-ID: <01HS9TQXDV4UHTS04A@Admin.Rose-Hulman.Edu>

IN%"acito@asdg.enet.dec.com" wrote:

> By-the-way, am I the only one who hears CW during that  
> Sunday-afternoon, post-Field Day hot shower?  
>  
> :-)  
>  
> b

Yeah, but have you ever found yourself starting to copy it?  
Worse yet, have you ever become frustrated because you were in the shower  
and knew that you couldn't get to the rig to work the guy???

For me the problem is more in that period of time before unconsciousness  
sets in when you lie down to catch the first sleep in about 36 hours. I  
start hearing and thinking all kinds of things about Field Day. I didn't  
have that problem this year. Work got in the way. But there is next year!

72, David Moody, KD8NY

-----  
David A. Moody | E-mail: David.Moody@Rose-Hulman.edu  
Admin. Programmer/Analyst | Finger: mgrdam@crux.Rose-Hulman.edu  
Rose-Hulman Inst. of Tech. | Amateur Call: KD8NY (CW QRP) ex-WB9MMD  
Terre Haute, IN USA 47803 | (VMS Rules!!! (but RSTS was fun.))  
Wk Ph: 812.877.8183

Any facts expressed within belong to everybody.  
Any opinions expressed within are my own and are not  
necessarily the same as my employer, family, friends, etc.  
It is up to you to know the difference.

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 10:10:42 -0400  
From: GREGOIRE@VALLEY.NET (ERNEST GREGOIRE)  
Subject: [1356] Re: Incoherent CW?  
Message-ID: <199506291410.KAA14436@dartvax.dartmouth.edu>

>  
>  
> By-the-way, am I the only one who hears CW during that  
> Sunday-afternoon, post-Field Day hot shower?  
>  
> :-)

>  
>           b  
>  
>  
>  
>     .     .     .     .     .     .     - I own my own words -     .     .     .     .     .  
>  
> Bill Acito                                 |d|i|g|i|t|a|l|  
> acito@asdg.enet.dec.com                 Digital Equipment Corporation  
>   Digital Semiconductor - Fab 6  
>   Hudson, MA  
> kc1gs  
> (qrp-ne #260, norcal #1147, arrl life)  
>  
> HI Boll and QRP-L crew,

I heard it in the shower Sunday night as the water hit the drain,  
I could clearly hear several call signs. :)

de AA1IK  
Ernie

>  
>  
>  
>  
>

From qrp-l@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 07:14:29 -0700  
From: bobhigh@primenet.com (Bob Hightower)  
Subject: [1357] FD Again  
Message-ID: <199506291414.HAA06317@mailhost.primenet.com>

Someone on the list mentioned making it up to their wife for letting them  
enjoy Field Day, so I thought I'd throw another two cents worth in;

My wife got interested in amateur radio when I dragged her to a club meeting,  
and decided to get her license. She is now a Tech+, and I hope to get her to  
upgrade in the future. The benefit is that she understands my need to now and  
then get some new gear, or buy something that might seem frivolous to non-hams,  
and supports me. Also, perhaps most importantly, when working phone and not  
able to make that difficult contact, she takes the mike and, lo and behold,  
gets right into them. Nice having the female voice to cut through a pile-up.  
Many stations have come back with 'will the YL come back, please', so I know  
my signal is somewhat weak, but she can get their attention. Keeps her interest  
up also.

During Field Day, she was hunting and pouncing, when, out of the blue, UT1HT came in, and she answered. He came right back, and when I told her where he was, she really got wound up. Turns out that she made the farthest contacts of any from my rig during FD. Go figure!

Bob KI7MN

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 10:10:16 -0500  
From: Charles Cashion <ccashion@spdmail.spd.dsccc.com>  
Subject: [1358] subscribe charles cashion  
Message-ID: <199506291510.AA01536@aplo1.spd.dsccc.com>

subscribe charles cashion

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 08:44:57 -0100  
From: CLATON.CADMUS@hamlink.mn.org (CLATON CADMUS)  
Subject: [1359] WHY AN OFFSET ON HF?  
Message-ID: <804420025.AA02683@hamlink.mn.org>

Hello Paulette and the list,

You asked:

PL>Why would a commercial HF rig have an 800 Hz offset (as does my  
>Kenwood TS830S)?

Offset is not as complicated as it might seem, especially if you start to look at it from the transmit side. The object of the game is for a QSO to be on one frequency, ie both stations transmit on the same frequency. What you must understand is that the sound you hear out of the speaker of your receiver is the difference between the frequency the other ham is transmitting on and the frequency your receiver is actually listening to. This is known as offset. If there was no offset, meaning your receiver was tuned to the exact same frequency as the other hams transmitter, you would hear no audio tone. This is known as ZERO BEAT.

Now most transceivers have built in offset, all this means is that the receiver frequency is shifted about 800 hertz from the transmit frequency. This is controlled by the CW key automatically. Usually the frequency readout or dial will indicate the transmit frequency as this is the frequency you are most concerned with. Many transcievers, my Ten

Tec as an example, have a "spot switch". When pressed this removes the automatic offset from the receiver, I'm now listening on the same frequency it will transmit on. Now I can tune the other ham in by adjusting the VFO until the audio frequency goes so low I can't hear it. At this point my transmit frequency will be very close to his. I then release the switch and the offset returns and clear 800 hz CW comes out the speaker. The big advantage of this is I'm assured that my transmission will be heard by the other ham at about the right audio pitch because he has offset too. (Well probably)

Hope this Helps

73 de Claton Cadmus, KA0GKC

```
-----  
| FIDOnet= Claton Cadmus 1:282./100 |  
| INTERNet= Claton.Cadmus@hamlink.mn.org |  
| PACKETnet= KA0GKC@WB0GDB.#STP.MN.USA.NA |  
-----
```

If anything I have written makes any cents, I claim copyright!  
\* SLMR 2.1a \* This tagline is umop apisdn.

---NoSnail v1.17

\*\*\*\*\*  
HAM>link< RBBS - Serving the Amateur Radio Community Since 1983

- 612/HAM-0000 v.34 Ham Radio Spoken Here!!  
- 612/HAM-1010 v.32b Reply to sender @ hamlink.mn.org  
\*\*\*\*\*

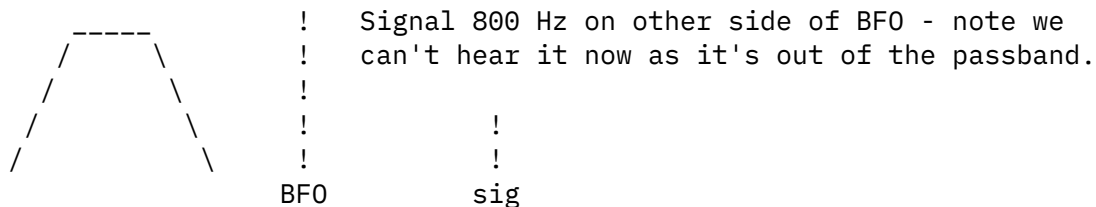
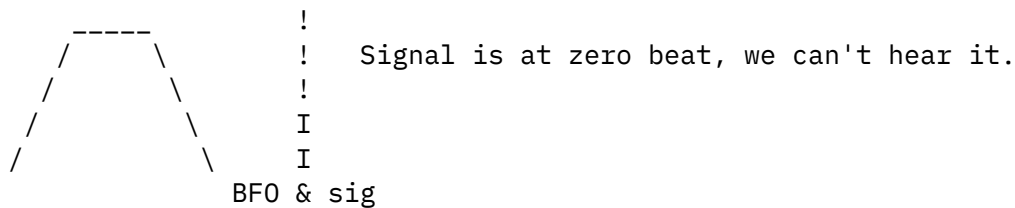
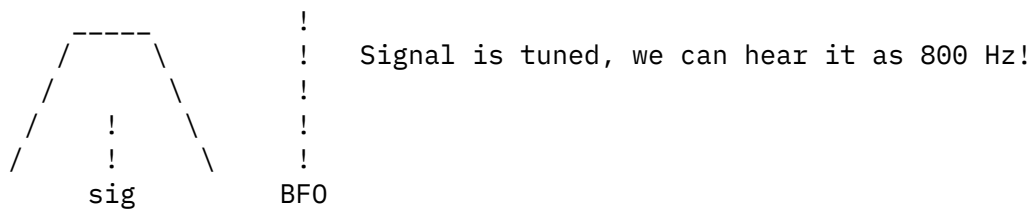
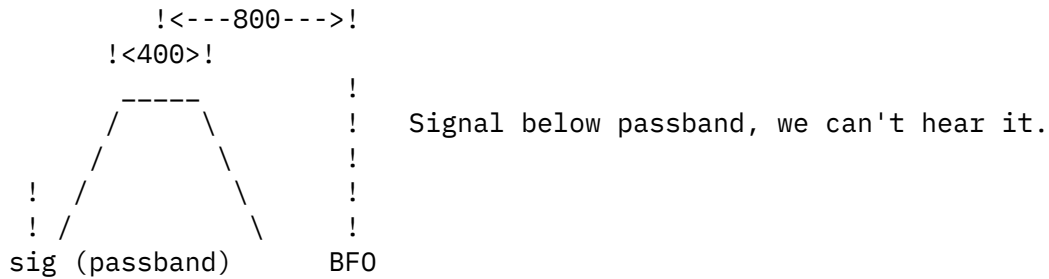
From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 95 11:49:41 EDT  
From: "N100Q Tom R. @ MR01 29-Jun-1995 0953" <randolph@est.enet.dec.com>  
Subject: [1360] Re: offset and/or zero beat  
Message-ID: <9506291549.AA07056@us4rnc.pko.dec.com>

> After reading and studying the mails about offset and zero beat  
> the subject becomes clear as mud to me.  
> 72 de Dirk, PA3GNR, dsibie@ns-nl.att.com

A picture is worth a thousand words, they say...

First, a superhet rcvr. The RF has been mixed with a VFO and converted to an IF. The IF signal goes through a crystal filter of 400 Hz bandwidth for selectivity in this particular radio. The BFO is set 800 Hz higher than the IF, so a signal tuned to the center of the xtal filter passband sounds like

800 Hz in the headphones. We tune across a signal and watch what happens:



You can see how being out of the passband would make you inaudible to the station you're trying to contact, if your offset was correct but on the wrong side of the BFO. This is "single signal reception". Also, being too close or too far from the BFO on the correct side would still make you inaudible, if he has a very narrow filter. The way to be heard is to be on the correct side of the BFO, and to tune around +/- a couple of hundred Hz until you hit his passband...

Direct-conversion receivers have at most an audio filter set to the listener's preferred CW frequency. Tuning across a station, the signal would start soft, get loud as it passed through the range of the audio filter, get soft again and come to zero beat, cross over the V/BFO, get loud again as it passed

through the range again, get soft again as you tuned away. Easier to hit since you can be either side of zero beat, but you still have to get into his audio passband.

```

          V/BFO
      !*      !      *
      ! *      !      *
audio !...*...!...*...
freq  !  *  !  *      \ audio passband
      !...*...!...*.../
      !      * ! *
      !      *!*
      +-----+
          radio
          freq

```

If his DC rcvr had no audio filter, you could just tune anywhere nearby his signal and start sending - he'd hear you.

Hope this helps explain it...!

-Tom R. N100Q randolph@est.enet.dec.com

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
 Date: Thu, 29 Jun 95 11:20:11 CDT  
 From: Brad=Staff%SW=Commr%PCPD=Hou@bangate.compaq.com  
 Subject: [1361] Zero beating MFJ 40m rig?  
 Message-ID: <R816+u8hwjA@bangate.compaq.com>

Anyone have a good procedure for zero beating an MFJ 40m rig?

72/73,

Brad  
 AA8IF/5

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
 Date: Thu, 29 Jun 1995 12:55:25 -0400  
 From: dcwill@ix.netcom.com (Dave Williamson)  
 Subject: [1362] new group order for QRP+?  
 Message-ID: <199506291657.JAA25936@ix3.ix.netcom.com>

Just wondering if there are enough prospective QRP+ buyers out there to make up another group order?? Can someone in the last group tell me how many it



took for the last group order, and was the price \$510 instead of \$595?

At that price, I'm pretty interested...

1/73rd de dave - aa4zx/8

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 10:00:45 -0700  
From: Clark Savage Turner WA3JPG <turner@safety.ICS.UCI.EDU>  
Subject: [1363] ForSale  
Message-ID: <2969.804445245@safety.ics.uci.edu>

Just some stuff my good friend AB6KE wants to get rid of. He has no access here, so I offered to handle the transactions. I post here first, then go to rec.radio.swap

1. New Vibroplex Iambic DeLuxe. Carmine used them for 10 minutes and knew they didn't "feel" right for him. \$90 plus shipping. (new they are \$120 or so?)

2. Ten Tec Argonaut 509. It is in good shape. There is a BNC antenna jack on the back panel and a jack on the side, I believe for the mike. The AGC has been modified to be "fast" for CW. \$250 plus shipping.

Write to me for details.

Clark, WA3JPG  
turner@ics.uci.edu

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 09:58:36 PDT  
From: lbrunson@rodgers.rain.com  
Subject: [1364] Re: Another 840 zero beat technique  
Message-ID: <9506291701.AA18085@rodgers.rain.com>

|From: Steven Wilson <randyw@crl.com>

Stan/Steven/randyw said:

|ZERO BEAT - WHY ?

|

|A lot of QRP stations use xtals. Many of the little homebrew designs do not have the exact off set. And many use RIT.

|  
|If you call CQ why do you not tune plus and minus your carrier by  
|at least 2 khz. ?

Back when novices had to use crystal controlled transmitters we used  
to tune around alot. I remember a guy who answered my cq who was  
over 100 KHz away on 15 meters. This is a bit extreme, though.

7★ Lowell

Lowell Brunson (503) 681-0417  
Rosenet: lbrunson@roland.co.jp  
Internet: lbrunson@rodgers.rain.com  
lowell@teleport.com

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 11:24:45 -0600 (MDT)  
From: "Timothy J. Pettibone" <tpettibo@NMSU.Edu>  
Subject: [1365] QRP item available  
Message-ID: <Pine.A32.3.91.950629111904.64904A-100000@paris>

I have a Ten Tec AC-7 changeover relay module. Looks like it was for the  
PM-1 module rig. In the box with yellowed instruction sheets and 5 year  
warranty! Got it at a silent auction of the local QCWA chapter.  
Anyone have a good use for it? Would like to send it to a real  
user. Postage cost reimbursement is my asking price. Original cost \$9.95.

Tim AB50U

p.s. Wish I had kept my PM-1 stuff!

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: 29 Jun 1995 13:40:59 -0400  
From: Glen Leinweber <leinwebe@mcmail.CIS.McMaster.CA>  
Subject: [1366] experience with current balun  
Message-ID: <1995Jun29.134059-0400@[130.113.234.7]>

Hello all,

Some time ago, my little NORCAL 40a blew out my audio  
stereo amplifier, and I've been investigating how it happened.

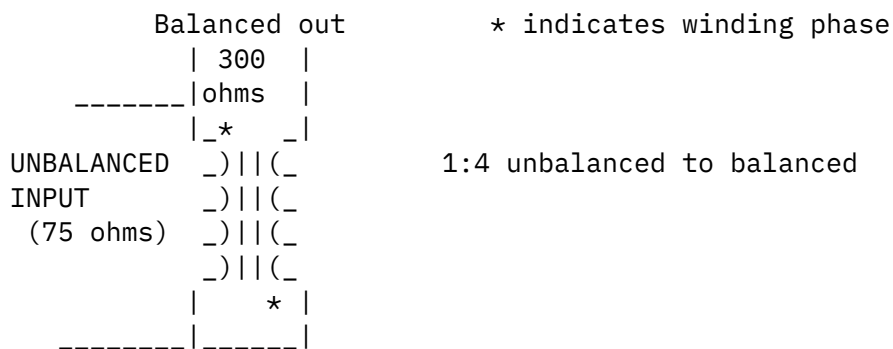
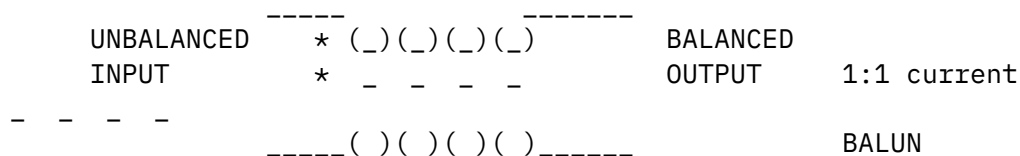
I had suspected that the 300 ohm feedline out of the tuner

was unbalanced, and radiated R.F. into the nearby audio equip. The T-type tuner had an unbalanced output, into a bifilar current-type balun wound on a ferrite core, and then into the hopefully balanced twinlead...Not!

Scoping each wire of the balanced feedline on a dual-channel scope revealed a phase and amplitude difference. Ideally, the voltage on one wire should be 180 degrees out of phase with the voltage on the other, and the same amplitude.

The phase difference tells me that the balun didn't have enough inductance. Rewinding the toroid with more turns got me close to 180 degrees.

Some of you have expressed interest in current baluns. Let me recommend some designs. These are in the handbook, but you may want to make some changes for QRP use.



How much inductance is enough for the toroid windings? I'd say you want at least 5 times the impedance of the transmission line. So if you are on 80 meters, using the 1:1 current balun into 300 ohm line from the tuner, you'd want inductive reactance to be at least 5 X 300 ohms or 1500 ohms. At 3.5 Mhz, thats 69 uH. At 7 Mhz., thats 34 uH.

You will need a ferrite rather than iron powder toroid to get this kind of inductance, with a reasonable # of turns. A "61" or Q1 material might be OK, or "43" (H) material. From the data in OCEAN STATE's catalog:

# Bifilar turns
80M    40M

FT82-61	31 22	.82"
FT50-61	32 23	.5"
FT37-43	13 9	.37"
FT50-43	12 8	.5"
FT82-43	12 8	.82"

The FT82 is big enough to get about 16 bifilar turns of #18 gage wire onto a single layer. You'll have to use smaller wire diameters on the smaller cores. For QRP work, the FT50 should be OK. The test is to feel them after a long transmitting stretch for temperature rise. Warm? - go to larger core. There should be no problems with arcing at QRP levels. Wind with magnet wire.  
Glen Leinweber VE3DNL leinwebe@mcmail.mcmaster.ca

From qrp-l@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 10:31:04 PDT  
From: lbrunson@rodgers.rain.com  
Subject: [1367] Re: offset and/or zero-beat  
Message-ID: <9506291736.AA18150@rodgers.rain.com>

I bet you receive lots of answers but let me just put in a quick note.

If you were using a separate receiver and transmitter it would probably be more obvious what is happening. Not all receivers now days can hear both sides of zero beat. Direct conversion receivers (hw-8) and simpler receivers with a BFO and without fancy crystal filters can too.

What you are trying to do is match your transmitter frequency to the other guys transmitter frequency. To do this with a receiver that receives both side-bands simultaneously you can tune the other guy on your receiver to zero beat (no tone). Then you tune your transmitter to zero beat too. Now both transmitters are on the same frequency. Now tune your receiver off of zero beat (either direction) until you hear the pitch you like.

Well, you have a transciever which has the transmitter frequency locked to the receive frequency. The radio design has already decided which side of zero beat you should tune the receiver off of and what pitch you should hear in order for your transmitter frequency to match the other guys transmitter frequency. All you have to do is figure out which side and what tone that is. Sorry, I don't have an HW8 so I can't tell you that.

Maybe that helps a bit. 7\* Lowell

Lowell Brunson (503) 681-0417  
Rosenet: lbrunson@roland.co.jp  
Internet: lbrunson@rodgers.rain.com  
lowell@teleport.com

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 14:32:39 -0400  
From: PDouglas12@aol.com  
Subject: [1368] Re: Incoherent CW?  
Message-ID: <950629143237\_104892419@aol.com>

Ok, since you guys are hearing things anyway, did anybody ever decode the cw that Clark Gable keeps hearing in Run Silent Run Deep????  
Preston WJ2V

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 13:37:08 -0500  
From: adams@chuck.dallas.sgi.com (chuck adams)  
Subject: [1369] Re: Zero beating MFJ 40m rig?  
Message-ID: <199506291837.NAA05962@chuck.dallas.sgi.com>

Brad, AA8IF, asks the question about zero beating the MFJ 40M rig, i.e. how to align it so that it transmits on the freq that you are listening to with RIT of zero.

First you need the MFJ, a signal source for 40M, and another receiver.

Tune the signal source in on the MFJ (freq that you like listening to) and the receiver. Transmit into a dummy load with the MFJ. Is it transmitting on the same freq as the the signal source as heard on the receiver? Yes, then done.

No, then you have to change the transmit freq. Look at the schematic. In the trasmitter section is there a mixer with adjustable offset? Then adjust until it is transmitting on the same frequency as the signal source.

I don't have an MFJ schematic with me, but someone else in the group can post the exact C(N) to tweek.

dit dit de K5F0/3

--

Chuck Adams K5F0 CP-60 adams@sgi.com

From qrp-l@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 12:40:46 -0700  
From: Clark Savage Turner WA3JPG <turner@safety.ICS.UCI.EDU>  
Subject: [1370] Argo 509 sold  
Message-ID: <4817.804454846@safety.ics.uci.edu>

Well, I am glad I posted here, the interest was high. I got a taker pretty quickly. Thanks. The Vibroplex paddles are still available.

Clark  
WA3JPG

From qrp-l@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 16:06:58 -0400  
From: glide@shore.net (michael glidewell)  
Subject: [1371] Re: QRP-L digest 39  
Message-ID: <199506292006.AA05755@northshore.ecosoft.com>

>Very good information from WB6AAM on antennas.

My situtaion is I have a clandestine 80' vertical random wire antenna up the front of the apt. bldg. I want to coonect it to my military surplus tube xmtr (RS-1) which is made for a random wire.

Question is should I connect RG-8x coax or just extend the single conductor from the balcony to my shack in the living room? I figure the coax would be less likely to pick-up/radiate any EMI/RFI in the apt. and have less signal loss to surrounding wiring in walls,etc.

2 I'm planning on connecting the shield of the coax at the antenna connection point on the balcony to a 65' of wire coiled on a wooden rod (or leave it on the spool?) since I don't have the room to stretch it out. This would serve as my counterpoise for 40m. Do this seem like a reasonable set-up?

-mike N1TQD

From qrp-l@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 16:07:01 -0400

From: dcwill@ix.netcom.com (Dave Williamson)  
Subject: [1372] group buy for qrp+, part deu  
Message-ID: <199506292009.NAA29430@ix3.ix.netcom.com>

I called up to Index Labs today, and while asking a few technical questions about future mods, asked about group buys. For those of you who, like me, don't know the details - minimum for group discount is ten people, who may pay separately. Price would be \$510 plus shipping. They're behind in production right now, thanks to the last group order <g>, and wouldn't want to take another until the end of July.

dave / aa4zx/8  
nr elkins wv

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 15:16:45 -0600  
From: Paul Harden <pharden@aoc.nrao.edu>  
Subject: [1373] Re: Zero beating MFJ 40m rig?  
Message-ID: <199506292116.PAA19249@zia.aoc.nrao.edu>

The concept behind setting the offset on the MFJ series is about the same as all NE602 based rigs. On mine, I set the CW transmit sidetone to produce a 700 Hz audio tone (this way, after a week QRT, the sidetone tells me what 700 Hz sounds like). Then adjust the BFO/product detector for 700 Hz audio. Thus to "zero-beat" (a misnomer, actually), you tune the station you wish to call until it has the same pitch as your sidetone. Walla ... within a couple tens of Hz.

For the MFJ rigs ... (without signal gen./freq. counters)

1. While monitoring the AGC volt. on TP1, tune in a station for maximum AGC volt. Adjust the BFO trim cap for 700 Hz. tone. Readjust station tuning and BFO until max. AGC volt. occurs when the audio pitch is 700 Hz. You now have the station in the middle of your filters bandpass, centered at 700 Hz. (On MFJ's with the CW filter board installed, the BFO trim cap is under the board and a little tricky to get to.) Move BFO adjustment slowly so you don't move it to the opposite sideband. (I.e., never go thru true zero-beat).
2. Key transmitter (into dummy load) while monitoring the CW sidetone. Adjust the TX OFFSET adjustment (just behind and to the right of the power switch) for a 700 Hz tone ... or the same tone your receiver BFO tweaked up at. Your transmitter offset is now the same as the peak response of your receiver and its BFO offset.

To verify, use another rig or SW receiver. Tune in a station on both your QRP rig and 2nd rig until the station has the same audio pitch on

both rigs. Key the rig (dummy load) and the tone/pitch of your transmit signal should be the same or very close to the pitch of the station you are monitoring. If not, readjust the BFO and repeat until your carrier sounds the same as the station you are monitoring.

This adjustment has NOTHING to do with the VFO, so do NOT adjust the VFO CAL variable inductor. It is very sensitive, and a 1/4 turn later you will be on 80M, trust me.

When above is achieved, to answer a CQ, for example, hit your paddle a time or two to hear the tone of the sidetone (which should be 700 Hz) and tune the rig until the CQ has the same pitch as your sidetone. You are on his frequency exactly. +/- your human ear factor, which is usually <20 Hz.

On my MFJ'z, I installed a SPST switch on the +12v to the transmit relay. In the off position, the rig goes to the transmit function in all respects, except no power applied to the final PA, but the sidetone is still there, just weaker than actual transmit. Thus I can tune in the station to the sidetone pitch without issuing an actual carrier. Then flip the switch and answer the CQ. (Sometimes I even wait till the guy finishes calling CQ!)

72, Paul NA5N  
thump thump (zero-beated "dit dit")

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 95 15:07:00 PDT  
From: Mark E Gustoff <Mark\_E\_Gustoff@ccm.ch.intel.com>  
Subject: [1374] For Sale

Ten Tec Argonaut 509 very nice shape both physically and cosmetically.  
P.S. for same unit, and HB CW filter is included \$275 plus shipping.

Reason for sale: Cleaning out shack to make room for the QRP+.

73,  
Mark de W07T/QRP

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 18:19:36 -0400 (EDT)  
From: ab4el@cybernetics.net (Stephen Modena)  
Subject: [1375] Re: qrp-1 Problems



Message-ID: <9506292219.AA11599@cybernetics.net>

Walter:

First, I want to thank you for writing. Good to know someone is reading my "work." :^)

> Something has gone flaky with qrp-l [at SunSITE].

Yes, that's true.

>

> I first noticed that daily.qrp postings were several days behind, i.e., the  
> digest for 6-27-95 had postings dated several days behind. Then the postings  
> for two of the days this past weekend were the same files for two different  
> days.

Three things have combined to mess up what had been a routine operation. The "free" provider I had been using to receive QRP-L message-by-message (and BA also) cut me off.

My normal, main Internet provider more or less crumbled in terms of being able to dial into them (read: the only available, working modem almost always was running at \*1200\* baud).

SunSITE itself suffered a \*major\* disk crash...and spent about a day reconstructing itself. And may I say, it appears that their faithfully run an incremental tape back up each day...a mark of the true professional.

The bright side is: I've signed onto a new provider (NandO.net) and hope to configure it to receive message-by-message from QRP-L and BA...so that I can return to the tested-and-true way I was doing things before the "seven plagues."

>

> This morning, for both the daily listing (6-29-95) and my downloads of  
> 19950629.qrp and 19950628.qrp give only the headers in each "article" of the  
> digest, with NO TEXT material. This for both the daily.qrp & the downloads from  
> the archives in /electronics&computers/qrp/.

Yes...I saw it too, as I always launch my WebBrowser to check on what I had just uploaded. My choice at that moment was: go to work, or stay and fix it. :^) So \*tonight\* I'll try to fix it.

>

> I don't know if the problem is with the software at Sunsite or at the list at  
> Lehigh. (I am unable to read the list directly @ lehigh.edu, for some reason -  
> probably my software here.)

I actually know approximately what is happening...and expect to remedy it OK. Though it may seem like offering "stale news," I can email to you what you may have missed. But what I'll do is let you know when it has been repaired (hopefully by the time I go to bed tonight), and you can FTP the back datasets...revamped.

>I am connecting to Sunsite.unc.edu through an FTP & downloading. I am NOT a  
> subscriber to the list.

Given your address, I can guess the reason. :^)

Hang in there...and thank you for the "warning" and your patience.

--  
--

73/Steve/AB4EL ab4el@Cybernetics.NET in Raleigh, NC 35.81245N, 78.65849W

From qrp-1@lehigh.edu Thu Jun 29 18:59:46 1995  
Date: Thu, 29 Jun 1995 15:35:40 +0800  
From: Raymond.Anderson@Eng.Sun.COM (Ray Anderson)  
Subject: [1376] Re: Polyphase networks for SSB?  
Message-ID: <9506292235.AA05245@radium.Eng.Sun.COM>

>  
>  
> QRPers,  
> Anyone ever try a "polyphase network" to get 90 degree phased audio for  
> SSB? June QEX has an article by JA1K0. It looks exceptionally easy for such  
> a difficult task - simply a network of 16 resistors and 16 capacitors, flat  
> phase response within a degree or two from 300 to 3000 Hz, less than 1 dB  
> attenuation from 40 Hz to 20 KHz.  
>  
> -Tom R. N100Q radolph@est.enet.dec.com  
>

Yes, I've experimented with them a bit, and have done quite a bit of research on these fascinating networks. There have been several articles published on these over the past several years.

The two "main-stream" places where you may see these described are in the ARRL handbook (the values described there are far from optimal) and in "The Art of Electronics" by Horowitz and Hill, (don't even bother with their values as they are totally bogus).

I've got a couple of programs that will calculate the

proper R and C values for whatever bandwidth and degree of phase balance you want. (one from a researcher in Arizona and one from the professor at UCLA who described the phase sequence circuits way back in the early 50's)

There was a good article on these networks in QEX about a year ago.

You can get pretty good phase balance over a 10:1 freq range (say 300 Hz to 3 KHz) with a modest size network.

If anyone wants more details, references or copies of the programs to design these networks, e-mail me.

72 de WB6TPU Ray  
raymonda@radium.eng.sun.com